Conference Co-Chairs’ Message

The era of the traditional Metropolis, fanning out in waves of decreasing density from a single core central business district, may be coming to an end. As we approach the new normality of cities housing 10 million or more inhabitants, those best positioned for the future are evolving along polycentric, multi-nodal lines, with several central business districts, ideally all offering something slightly different to the urban inhabitant. When focused around transit nodes and well-planned infrastructure, embracing high density, public space and civic functions, this amalgamation of “several cities within a city” perhaps offers the best opportunity for a sustainable future for the many millions of people who will move into cities over the coming decades.

The concept of polycentric cities is not new. New York developed both its Downtown and Midtown in differing waves of development, and London was polycentric almost from its origin. However, even New York and London are seeing several new urban clusters shift the centers of gravity around the city whole, as other cities based on the core-CBD model – Hong Kong for example – shift density out beyond the established center. The physical manifestation of this is often an undulating skyline, with density rising to a series of apexes across the city.

There is perhaps nowhere that demonstrates this concept better than our host city for the core of the 2018 conference, Dubai. Indeed, it could be argued that Dubai, a city that has largely risen in just three short decades, is a pure result of this de-centralized urban approach, comprised as it is of evocative-sounding districts – Downtown Dubai; Business Bay; Dubai Marina; Festival City; Palm Jumeirah; and several others. New “centers” are still being added, including Midtown; Emirates Business Park; Meydan One; and Dubai Creek Harbour, anchored by the under-construction Dubai Creek Tower.

The same is true of many Middle Eastern cities, and most certainly our second host city for the conference, Abu Dhabi, where the drive toward polycentrism has been accompanied by a profound and concerted effort to forge a unique urban and architectural identity. Growing rapidly from what was a comparatively small desert settlement in the 1960s, the city now incorporates a number of new districts anchored by skyscrapers that respond to the cultural and environmental conditions of the region.

We’re very pleased you have chosen to join us at the 2018 conference, to debate the merits and challenges of this multi-nodal approach to urbanism, and to understand and envision how tall buildings, density, infrastructure and people fit into this vital mix. We hope you enjoy the next few days!

Steve Watts
CTBUH Chairman
Partner, alinea consulting
London, UK

Antony Wood
CTBUH Chief Executive Officer
Research Professor, Illinois Institute of Technology
Chicago, USA
Important Conference Information

Program Overview

Note: Due to Friday being the weekend in large parts of the Middle East, the conference will begin on a Saturday and finish on a Thursday.

Presentation Sessions & Space Allocations

Each day of the core Conference in Dubai will begin precisely at 9:00 a.m. so it is important that you take your seat in the Plenary Hall before this time. After the Keynote sessions on each morning, eight parallel tracks will begin, each focused on a different theme and hosted in the ballrooms and program rooms as show in the Dubai venue plan (see opposite page). The themes of the eight parallel tracks, and speakers, can be seen in the program overview on pages 8 and 16.

Name Badge Designations

Name Badge colors indicate important hierarchies within the CTBUH network, and the conference itself, as outlined below. Please note that your name badge needs to be worn at ALL conference events including networking receptions and off-site programs:

- **Blue:** CTBUH Leaders and Conference Presenters
- **Green:** Sponsors and Supporting Partners
- **Purple:** CTBUH Members, at the organizational or individual level
- **Yellow:** Conference Delegates (non-CTBUH members)
- **Orange:** Press and Media
- **Black:** Event Staff

Conference Materials

Upon registering, delegates will receive a Name Badge containing the following:

- **Conference Bag Ticket.** All conference bags, kindly sponsored by JLL, contain this conference guide, the conference book of abstracts, the delegate attendance list, the conference-themed CTBUH Journal, and other useful information.
- **Delegate USB Drive.** With the kind support of AECOM, the USB drive contains a digital version of all the presentations to be given at the conference, as well as all abstracts.
- **Additional Event Registrations** (if pre-registered). Registrations for pre-booked additional events – such as the two evening networking receptions in Dubai, the follow-on Abu Dhabi program (see page 30) and the off-site programs themselves – are printed on the back of your name badge, which you must show at each venue.

CTBUH Leaders

Please note that CTBUH Leaders (Board of Trustees, China Board, Advisory Group, Chapter Boards, Regional Representatives & Committees/Working Groups), are designated throughout this document, with the following designation under their photo:

CTBUH Research Projects

Presentations connected to sponsored CTBUH Research Projects and working group / committee outputs are highlighted throughout the program with the following designation:

For more on these particular projects, see pages 24-25

Delegate Feedback

We ask for your feedback on the conference at the end of your experience with us. Please tell us what has worked well, and what might have been improved on, at 2018.ctbuh.org/feedback. It really does help us make future events better.
Day 2 Dubai: Program Overview  Sunday, 21 October

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00–9:00 a.m.</td>
<td>Arrival, Registration &amp; Breakfast, Sponsored by Tongji Architectural Design Group</td>
</tr>
<tr>
<td>9:00–10:45 a.m.</td>
<td><strong>Session 1</strong>&lt;br&gt;<strong>Opening Address</strong>&lt;br&gt;His Excellency Mohamed Ali Alabbar, Founder and Chairman Emaar Properties&lt;br&gt;<strong>Opening Plenary</strong>&lt;br&gt;Middle East Polycentric Developments&lt;br&gt;<strong>Keynote 1</strong>&lt;br&gt;Santiago Calatrava, Principal Calatrava International&lt;br&gt;<strong>Keynote 2</strong>&lt;br&gt;Mounib Hammoud, CTBUH Trustee/CEO, Jeddah Economic Company&lt;br&gt;<strong>Keynote 3</strong>&lt;br&gt;James von Klemperer, President and Design Principal, Kohn Pedersen Fox Associates&lt;br&gt;<strong>Keynote 4</strong>&lt;br&gt;Shaun Killa, Design Partner, Killa Design</td>
</tr>
<tr>
<td>10:45–11:45 a.m.</td>
<td>Coffee/Tea Break, Sponsored by Hongkong Land + Exhibition Viewing Hour</td>
</tr>
<tr>
<td>11:45 a.m. - 12:45 p.m.</td>
<td><strong>Session 2</strong>&lt;br&gt;THE PANEL DISCUSSION HOUR&lt;br&gt;Critical Issues in High-Rise Façade Design&lt;br&gt;What Makes a Skyscraper “Smart”?&lt;br&gt;Skybridges: What are the Opportunities?&lt;br&gt;Polycentric Urbanism</td>
</tr>
<tr>
<td>12:45–1:45 p.m.</td>
<td>Lunch, Sponsored by Select Group + Exhibition Viewing Hour</td>
</tr>
<tr>
<td>1:45–3:15 p.m.</td>
<td><strong>Session 3</strong>&lt;br&gt;Preserving Façade Integrity&lt;br&gt;Smart Cities&lt;br&gt;Designing the Skybridge: Connecting Skyscrapers&lt;br&gt;Polycentricism and the Future of Urbanism</td>
</tr>
<tr>
<td>3:15–3:45 p.m.</td>
<td>Coffee/Tea Break, Sponsored by Gilsanz Murray Steficek + Exhibition Viewing</td>
</tr>
<tr>
<td>3:45–5:15 p.m.</td>
<td><strong>Session 4</strong>&lt;br&gt;New Frontiers in Façade Design&lt;br&gt;Smart Systems&lt;br&gt;Managing the Skybridge: Operational Aspects&lt;br&gt;Polycentric Urban Case Studies</td>
</tr>
<tr>
<td><strong>Evening</strong></td>
<td>Sponsor-Invited Social Events: Taking place at several venues across Dubai.</td>
</tr>
</tbody>
</table>
**Track E**
Tall Timber

**Track F**
Urban and Building Transit

**Track G**
Advanced Construction & Engineering

**Track H**
The Occupant Experience

---

**Session 2**
**THE PANEL DISCUSSION HOUR**

11:45 a.m. - 12:45 p.m.

For more details, see pages 10–11

---

**Session 3**

1:45-3:15 p.m.

For more details, see pages 12–13

**Concurrent Tracks + Q & A**

---

**Session 4**

3:45-5:15 p.m.

For more details, see pages 14–15

**Concurrent Tracks + Q & A**

---

Coffee Break, Sponsored by Hong Kong Land + Exhibition Viewing Hour

10:45-11:45 a.m.

Coffee Break, Sponsored by Gilsanz Murray Steficek + Exhibition Viewing Hour

3:15–3:45 p.m.

Lunch, Sponsored by Select Group + Exhibition Viewing Hour

12:45-1:45 p.m.

Evening

---

Sponsor-Invited Social Events: Taking place at several venues across Dubai.
**Day 3 Dubai: Program Overview**  
**Monday, 22 October**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00–9:00 a.m.</td>
<td>Arrival &amp; Breakfast, Sponsored by Cheng Chung Design (HK) Ltd.</td>
</tr>
</tbody>
</table>

### Session 5

#### 9:00–10:45 a.m.

Welcome & Presentation of Academic & Research Awards: Chaired by Antony Wood, CTBUH Chief Executive Officer; Research Professor, Illinois Institute of Technology

**Plenary 2 Panel Discussion**

<table>
<thead>
<tr>
<th>Panel Chair</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steve Watts</td>
<td>Polycentric vs. Monocentric: The Future of Vertical Urbanism?</td>
</tr>
<tr>
<td>James Parakh</td>
<td>Americas:</td>
</tr>
<tr>
<td>City of Toronto Planning</td>
<td></td>
</tr>
<tr>
<td>Department</td>
<td>Asia:</td>
</tr>
<tr>
<td>Dr. Cheong Koon Hean</td>
<td></td>
</tr>
<tr>
<td>Housing &amp; Development Board</td>
<td></td>
</tr>
</tbody>
</table>

**Track A**  
Tall Building Façades Symposium

**Track B**  
Smart Tall Buildings Symposium

**Track C**  
Skybridges Symposium

**Track D**  
Polycentric Urbanism

#### 10:45–11:15 a.m.

Coffee/Tea Break, Sponsored by Mirvac + Exhibition Viewing

### Session 6

#### 11:15 a.m. - 12:45 p.m.

**For more details, see pages 18–19**

**CONCURRENT TRACKS + Q & A**

**Track A**  
De-Risking Tall Building Façades

**Track B**  
Smart Tools

**Track C**  
Engineering the Skybridge: Technical Aspects

**Track D**  
Polycentricism at the Site Scale

#### 12:45–1:45 p.m.

Lunch, Sponsored by WME Consultants + Exhibition Viewing Hour

### Session 7

#### THE PANEL DISCUSSION HOUR

**1:45–2:45 p.m.**

**For more details, see pages 20–21**

**Track A**  
Skinning Tomorrow’s Skyscrapers

**Track B**  
What Does a Smart City Look Like?

**Track C**  
Advancing the Skybridge: What’s Next?

**Track D**  
What are the Advantages & Disadvantages of Polycentric Cities?

#### 2:45–3:45 p.m.

Coffee/Tea Break, Sponsored by Langan Engineering + Exhibition Viewing Hour

### Session 8

#### 3:45–5:15 p.m.

**For more details, see page 7**

**Plenary 3**

**50 Forward, 50 Back**

**Session Chair:**  
Ron Klemencic  
Past CTBUH Chairman/Chairman & CEO, Magnusson Klemencic Associates

**Keynote 1:**  
Gregg Pasquarelli  
Principal, SHoP Architects

**Keynote 2:**  
William Baker  
Partner, Skidmore, Owings & Merrill LLP

#### 5:15–5:30 p.m.

Core Dubai Conference  
Closing & Launch of:  
**2019 Tall+Urban Innovation Awards**  
2019 Tall+Urban Innovation Conference, Shenzhen (08–10 April 2019)

#### 6:00–8:00 p.m.

Networking Reception at Atlantis, The Palm, Hosted by Investment Corporation of Dubai & Kerzner, Sponsored by WSP; Coaches depart at 5:30 p.m. from the JW Marriott ground floor lobby, see p. 29.
Track E
Tall Timber

6E
Tall Timber: Asia, Australia & Africa

Panelist 3
Australia:
Helen Lochhead
Dean, Faculty of Built Environment, UNSW Sydney

Panelist 4
Europe:
Peter Murray
Chairman, New London Architecture Centre; London Mayor's Design Advocate

Panelist 5
Middle East:
Mohammad Kaiser Azad
Head of Community Management, Emaar Properties

Track F
Urban and Building Transit

6F
Building and Human-Scale Mobility

Track G
Advanced Construction & Engineering

6G
Means, Methods and Materials

Track H
The Occupant Experience

6H
Internal Considerations

Panelist 3 Panelist 4 Panelist 5
Ole Scheeren
Partner, Buro Ole Scheeren

Antony Wood,
CTBUH Chief Executive Officer
Research Professor, Illinois Institute of Technology

Coffee Break, Sponsored by Mirvac + Exhibition Viewing
10:45–11:15 a.m.

Lunch, Sponsored by WME + Exhibition Viewing Hour
12:45–1:45 p.m.

Coffee Break, Sponsored by Langan + Exhibition Viewing Hour
2:45–3:45 p.m.

Networking Reception at Atlantis, The Palm, Hosted by Investment Corporation of Dubai & Kerzner, Sponsored by WSP
6:00–8:00 p.m.